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| EXAMINER | |
|---|---|
| AMAYA, CARLOS DAVID | |
| **ART UNIT** | **PAPER NUMBER** |
| 2836 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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| 3 MONTHS | 01/10/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/789,691 | EATON ET AL. | |
| | Examiner | Art Unit | |
| | Carlos Amaya | 2836 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *10 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-16,28 and 29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *20-27,30* is/are allowed.

6)☒ Claim(s) *1-9,12,13,16,28 and 29* is/are rejected.

7)☐ Claim(s) *10,11,14 and 15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Objections*

1. Claim 1 is objected to because of the following informalities: Claim 1 line 8 delete "the first input port and to the first input port,".

Claim 2 is objected to because of the following informalities: In claim 2 line 1 the phrase "at least one" should be deleted to avoid antecedent basis. For prior art rejections the "at least one" is going to be treated as reading first and second.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-7, 12,16, 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Anderson (US 200).

With respect to claim 1, 7 Anderson discloses an automatic transfer switch (Transfer Switch 3) system comprising: a first input port for receiving alternating current from a first power source; a second input port for receiving alternating current from a second power source (fig. 1 shows the transfer switch receiving power from two sources a generator AC and Utility AC, the transfer switch having two ports for receiving the

power from the generator and the utility); a first internal component (fig. 8a microcontroller U1) that requires internal power satisfying a first criterion with respect to at least one characteristic in order to properly operate (microcontroller needs 5 volt to function properly); a power converter (fig. 8b shows a power converter to convert the voltage from the load AC, which is coming from either the utility or the generator, to an unregulated 15 volts that is converted to 5 volts by a regulator U2) coupled to the first internal component (the power converter provides power to the microcontroller), the first input port and the second input port (the power converter as shown in fig. 8 provides power from the utility or the generator depending on the available power and the position of the transfer switch), wherein the power converter receives alternating current input power by way of the first and second inputs ports (power converter receives power from the generator or the utility via first and second ports as shown in figure 1) and converting the input power into the internal power to be provided to the first internal component (power converter by means of the regulator provide power to the microcontroller), and wherein the internal power provided by the power converter satisfies the first criterion, even though the at least one characteristic of the input power varies within a range (the power converter and the regulator provide power to the microcontroller and other components, as its understood and shown in the figures the converter is able to convert power form the different power sources, which vary since come from two different power sources).

With respect to claim 2 Anderson discloses the ATS system of claim 1, the first and second input port is capable of receiving first and second input powers from first

and second external power sources, and wherein the power converter is capable of combining the first and second input powers to provide the internal power (As shown in the figures the transfer switch has a first and second input ports for receiving power from the generator and utility; and as shown in fig. 8b the power converter is capable of receiving power from the utility or the generator depending on the switch).

With respect to claim 3 Anderson discloses the ATS system of claim 1, wherein the power converter includes a rectifier section (fig. 8b shows a rectifier) and a switch mode regulator section coupled to one another (As shown in fig. 8b the power converter consist of regulators U2 and U3, regulators are known to have switches to be controlled, and thus provide a control output voltage).

With respect to claim 4 Anderson discloses the ATS system of claim 3, wherein the power converter further includes a first filter section (capacitor C3 functions as a filter) that couples the rectifier section and the switch mode regulator section (as shown in figure 8b the filter capacitor C3 is couple to the regulator and the rectifier).

With respect to claim 5 Anderson discloses the ATS system of claim 4, wherein the power converter further includes a second filter section that is coupled to the switch mode regulator section (as shown in fig. 8b capacitors C1 and C4 form a second capacitor connected to the regulators).

With respect to claim 6 Anderson discloses the ATS system of claim 5, wherein the input power is provided to the rectifier section, the internal power is provided from the second filter section (the power to the microcontroller is provided from the second

filter C1), and each of the first and second filter sections operates as a low-pass filter making the filters a low-pass filter is based on design and results desired.

With respect to claim 12 Anderson discloses the ATS system of claim 4, wherein the criterion is that a voltage of the output power remain at one of substantially 12 Volts DC and substantially 5 Volts DC. Voltage regulators of fig. 8b produce 5 volts.

With respect to claim 16 Anderson discloses the ATS system of claim 1, wherein the at least one characteristic of the input power that varies is a voltage of the input power, which varies within one of a first range of O to 300 Volts AC and a second range of 300 to 600 Volts AC. The input power can vary according to the various components taking into account during generation or transmission of power to the system. It has been held that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

With respect to claim 29 Anderson discloses the ATS system of claim 1 wherein the internal power provided by the power converter is a direct current. The rectifier in fig. 8b implies that the power converted converts AC to DC.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US 2002/0079741).

With respect to claim 8 Anderson discloses the ATS system of claim 7, wherein each of the first and second input powers has three phases in an arrangement (as shown in the figures it is understood that the power provided by the utility and the generator are in a three phase arrangement) that is one of a delta arrangement, a wye arrangement and a corner-grounded delta arrangement, and wherein two of the three phases of each of the first and second input powers are coupled to the rectifier as the input power.

It would have been obvious to one of ordinary skill in the art to have the connection of the three-phase in an arrangement that is suitable for the power conversion of the rectifier, and also to connect the rectifiers to two of the three phases, for the purpose of obtaining a desired output based on the characteristics of the three-phase input power.

6. Claims 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US 2002/0079741) in view of Young (US 7,061,139).

With respect claim 9 Anderson discloses the ATS system of claim 7, however does not disclose expressly that the rectifier section includes first diode array that receives the first input power and a second diode array that receives the second input power, wherein the first and second diode arrays respectively rectify the first and second input powers, wherein respective first output terminals of each of the first and second diode arrays are coupled to one another and respective second output terminals

of each of the first and second diode arrays are coupled to one another so that an overall rectified power based upon either or both of the first and second input powers is developed.

Young discloses that the rectifier section includes a first diode array (Power rectifier 66) that receives the first input power (power from utility grid) and a second diode array (Power rectifier 70) that receives the second input power (power from fuel cell 60), wherein the first and second diode arrays respectively rectify the first and second input powers, wherein respective first output terminals of each of the first and second diode arrays are coupled to one another and respective second output terminals of each of the first and second diode arrays are coupled to one another so that an overall rectified power based upon either or both of the first and second input powers is developed (As shown in figure 3 both rectifiers 66 and 70 are couple together to provide an overall rectified power based on either of the first or second power source).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combine the teachings of Young having first and second diode arrays with the teachings disclosed by Anderson.

The suggestion or motivation for doing so would have been to provide power from either the first power supply or the second power supply or from both supplies.

7. Claims 13, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US 2002/0079741) in view of Hansson (US 2004/0189271).

With respect to claim 13, 28 Anderson discloses the ATS system of claim 1, however Young does not disclose expressly that the power converter includes a switch

mode power supply (SMPS) and a switch mode regulator coupled to an output terminal of the SMPS.

Hansson discloses a switch mode power supply 100 and pre-regulator 120 (shown in figure 4) of figure 1, it is known in the art to include regulators in the SMPS as disclose by Hansson. It would have been obvious to provide a SMPS to the invention disclose by Anderson, for the purpose of providing a desired output voltage.

The suggestion or motivation for doing so would have been to stabilize the output voltage, to provide a clean output to electrical components.

***Allowable Subject Matter***

8. Claims 24-26, 30 allowed.

Claim 24 is allowable over the prior art of record, because the prior art of record does not disclose "a switch mode power supply that is connected to only two phases of the first input power and to only two phases of the second input power and converting the first and second input powers into the internal power satisfying the first criterion even though at least one characteristic of the input power varies within a range, the switch mode power supply operatively coupled to supply the internal power to the internal component". Along with the rest of the claim.

9. Claim 27 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 27 is allowable over the prior art of record, because the prior art of record does not disclose "the power converter is coupled simultaneously to the first input port and the second input port to receive alternating current from both the first and second power sources."

***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Amaya whose telephone number is (571) 272-8941. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272-2800. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CA

Stephen W. Jackson
1-5-07

STEPHEN W. JACKSON
PRIMARY EXAMINER